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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,849	07/03/2003	Mario Au	5646-42DVIP	6889

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MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627

EXAMINER
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PORTKA, GARY J

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/612,849

Applicant(s)

AU ET AL.

Examiner

Gary J. Portka

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-9, 18, 19, 21, 60 and 61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 19 and 21 is/are allowed.
- 6) ☒ Claim(s) 6-9, 60 and 61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-5, 10-17, and 20 have been canceled, claims 18 and 21 have been amended, and claims 60 and 61 have been added by Applicant. Claims 6-9, 18-19, 21, and 60-61 are pending.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barlow, in view of Braceras et al., US 5,561,781 (hereinafter "Braceras").

4. As to claims 6 and 8, the device of Barlow may be considered a FIFO since it is used to stream data (para. 0002). Barlow teaches a three port device, but does not teach a quad-port device. However, Braceras teaches the use of a quad-port device, as depicted in Figs. 3 and 4 (it is noted that the CRB/SBB are not required to incorporate this teaching). It would have been clear to an artisan that the addition of a port to Barlow might make the device more costly, yet would likely have improved performance due to the parallel capabilities of more ports. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use a quad-port device, because more ports increases parallelism which improves performance.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barlow, in view of Braceras, and further in view of McGehearty et al., US 6,446,157 (hereinafter "McGehearty").

6. As to claim 7, neither Barlow nor Braceras disclose switching between two caches. However, McGehearty teaches that operations are advantageously switched between two cache banks (the same as the recited two cache devices) to minimize delays while equalizing data in and out of the caches (see Abstract, col. 2 lines 35-45, and col. 3 lines 35-38). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to switch between first and second caches, because this was known to minimize delays and equalize data in and out of the cache.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barlow, in view of Braceras, and further in view of Blake.

8. As to claim 9, neither Barlow nor Braceras teach a check bit generation and error detection and correction circuit for the memory vectors. However, Blake teaches that it is advantageous to protect data in a cache, using ECC, and that a typical ECC implementation uses just such a circuit (col. 4 lines 43-55). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use check bit generation and error detection and correction circuitry as recited, because this was known means to avoid errors when storing data.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 60 and 61 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-34 of copending Application No. 10/639,163. Although the conflicting claims are not identical, they are not patentably distinct from each other because all limitations of the present claims are apparently taught considering all independent and dependent claims of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Allowable Subject Matter***

11. Claims 18-19 and 21 are allowed.

***Response to Arguments***

12. Applicant's arguments filed December 19, 2005 have been fully considered but they are not persuasive. Applicants argue that the quad-port cells of the invention remedy the inability of Barlow to transpose data without a shifter. This argument is not supported by any claim language. Barlow clearly supports writing and reading column and row vectors as recited (see previously cited sections, also para. 0042).

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary J Portka  
Primary Examiner  
Art Unit 2188

November 28, 2005

A handwritten signature in black ink, appearing to read "Gary J Portka".

**GARY PORTKA  
PRIMARY EXAMINER**